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USB Advisor T3
Quick Start

1 Introduction

The Teledyne LeCroy USB Advisor T3™ USB 3.0 Protocol Analyzer is a verification system for USB development and testing. It supports both USB 2.0 and USB 3.0. It is designed to record USB traffic and graphically present the logical transactions and events. It connects to a host machine (laptop or desktop PC) via USB 2.0.

Please see the **Readme** file on the installation CD for the latest information on PC requirements and supported operating systems.

The system can monitor traffic between USB 2.0 links using standard high-speed compliant cables.

If configured for USB 3.0 testing, the system supports monitoring between SuperSpeed links using USB 3.0 cables.

2 Components

The Teledyne LeCroy Advisor T3 Analyzer package includes the following items:

- One Teledyne LeCroy USB Advisor T3 Analyzer
- DC Power Adaptor
- USB cables (three)
- Installation CD-ROM, including documentation
- Quick Start Guide
- Carrying Case

Please see the *USB Protocol Suite User Manual* on the installation CD for component specifications.

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3 Description

The **front** panel has the following indicators and connectors:

Power LED (green if on)

Status LED (blue if system successfully initializes)
(red while booting. If red for more than a minute, hardware failure)
(green while initializing)

Analyzer Port A (downstream) Connects to Device Under Test.

Analyzer Port B (upstream) Connects to Host Under Test.

Analyzer LEDs

Rec - Recording (red if recording enabled)
Trig - Trigger (green if triggering)
2.0 - USB 2.0 (yellow for Low and Full Speed)
(green for Hi Speed)
3.0 - USB 3.0 (green if link is up; flashes green while data transfers; yellow if polling)

The **rear** panel has the following indicators and connectors:

USB Type B connector for connection to host machine

Sync/Data: Micro DB-25 (25-pin) external interface connector (cable sold separately)

Power Connector: 12V, 3A DC

Power Switch (0/1)

Warning: Do not open the enclosure. No operator serviceable parts are inside. Refer servicing to Teledyne LeCroy customer care.

4 Installing the Software

Note: You must install the software before connecting the Analyzer to the host machine for the first time.

1. Insert the Installation CD into the CD drive on the host machine.
2. Select **Install Software** from the Installation CD and follow the on-screen installation instructions to install the application on the host machine's hard disk.

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5 Setting Up the Analyzer

To set up the Analyzer:

1. Connect the AC power cable to the rear of the Analyzer and to a 100-volt to 240-volt, 50-Hz to 60-Hz, 100-W power outlet.
2. Connect the USB port to a USB port on the host machine using the LONG (6-foot/2-meter) USB 2.0 cable.
3. Insert the Installation CD.
4. Turn on the power switch. At power-on, the Analyzer initializes itself in approximately ten seconds and performs an exhaustive self-diagnostic that lasts about five seconds.
5. Click **Next** after you see the Add New Hardware Wizard window.
6. Follow the Microsoft® Windows® on-screen Plug-and-Play instructions for the automatic installation of the Analyzer as a USB device on your host machine (the required USB files are included on the Installation CD)
7. Click **Finish** when you see the message that says “Windows has finished installing the software that your new hardware requires” and the driver files have been installed in your host machine.

6 Starting the Application

To start the application, launch the Teledyne LeCroy USB Protocol Suite program from the Start Menu:

Start > Programs > LeCroy > USB Protocol Suite > USB Protocol Suite.

You can use the software with or without the system connected to the host machine. Without the Analyzer, the program functions as a trace viewer to view, analyze, and print trace files.

The first time you open the USB Protocol Suite application, confirm proper installation by selecting **About** from the Help menu to view the Software Version, Firmware Version, BusEngine™ Version, and Unit Serial Number.

Note: When the Advisor T3 is power-cycled, it loses its Bus Engine image. The image updates automatically when the Application runs.

7 First USB Recording

After installing and launching the software, you can test the system by performing the following steps:

1. Connect a USB cable to each of the two connectors on the Analyzer module, then connect the other ends to the USB Device Under Test and USB Host Under Test.
2. Select **Recording Options** under **Setup** on the Menu Bar.
3. Select the **General** tab to display the following dialog box showing factory default settings such as Snapshot and 16 MB buffer size. For the first recording, you can leave these settings unchanged. Under Recording Channels, select **2.0** or **3.0** to record USB 2.0 or USB 3.0 traffic.
4. Click **OK** to activate the recording options you selected.
5. Turn on the USB devices that are to be tested and cause them to generate USB traffic.

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6. Click

on the Tool Bar. The system starts to record the USB traffic immediately. After 16 MB of traffic are recorded, the Analyzer uploads the data and displays the packets in the trace window.
7. To terminate recording before the snapshot automatically completes, click on the Tool Bar.
When the recording session is finished, the traffic is automatically uploaded from the Analyzer to the hard drive on your host machine as a file named **data.usb** or the name you assigned as the default filename. While the file is being uploaded, you should see a brown progress bar at the bottom of the screen. When the bar disappears, it indicates that the data has been uploaded to disk.
8. To save a current recording for future reference, select **Save As** under **File** on the Menu Bar, OR click on the Tool Bar to display the standard **Save As** screen.
Give the recording a unique name and save it to the appropriate directory.

For additional information on the results display, see the *USB Protocol Suite User Manual*.

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